

Appl. No. 10/810,023
Amdt. Dated Sep. 26, 2005
Reply to Office Action of June 24, 2005

Amendments to the Specification

Please replace paragraph [0016] with the following amended paragraph:

[0016] FIG. 4 is ~~a schematic top view of part of a barrier array formed according to the method of FIG. 1, said part comprising a single barrier~~ an enlarged view corresponding to a circled portion IV of FIG. 2, showing a barrier array portion of a barrier array formed according to the preferred method; and

Please replace paragraph [0017] with the following amended paragraph:

[0017] FIG. 5 is a cross-sectional view of the single barrier array portion of ~~[[the]]~~ FIG. 4, taken along line V-V thereof.

Please replace paragraph [0018] with the following amended paragraph:

[0018] The preferred method for making a barrier array used in flat panel displays according to the present invention will be described with reference to the flowchart of FIG. 1.

Please replace paragraph [0019] with the following amended paragraph:

[0019] A metal plate is first provided (step 10). The metal plate can be made from ~~invar (an alloy of iron and nickel)~~ an iron-nickel alloy (for example, invarTM), low carbon steel, or another suitable metal alloy that has a coefficient of thermal expansion matching that of a substrate of a flat panel display.

Please replace paragraph [0020] with the following amended paragraph:

[0020] A mask is provided prior to ~~forming~~ form a shadow mask. The mask has a predetermined pattern according to a pixel pattern of one or

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more desired flat panel displays. For the purposes of describing the present invention simply, it will be assumed hereafter that a pixel pattern for only one flat panel display is desired. ~~The A~~ shadow mask ~~[[21]]~~ is then formed by photolithographic etching, using the mask (step 20). Referring to FIG 2, the shadow mask 21 comprises ~~the [[a]]~~ metal plate 25 and a plurality of openings 23 defined therethrough. The plurality of openings 23 are of sizes and are arranged in an array according to the pixel pattern of the flat panel display.

Please replace paragraph [0023] with the following amended paragraph:

[0023] Referring also to FIGS. 4 and 5, each of barrier array portions ~~The individual barrier 34 of which the barrier array is formed are~~ comprised is completed once an insulative layer 31 of alumina material has been deposited on the shadow mask 21 to a predetermined thickness. ~~Referring to FIG 4, each~~ Each barrier array portion 34 comprises a part of the shadow mask 21 and the insulative layer 31 formed thereon. FIG 5 shows a cross-sectional view of the barrier array portion 34 of FIG 4 taken along line V-V thereof. The metal plate 25 and ~~sides a peripheral sidewall~~ of ~~[[an]]~~ the opening 23 of the barrier array portion 34 ~~are is~~ covered by the insulative layer 31. A thickness of the insulative layer 31 is in the range from 10 to 500 micrometers, and preferably is in the range from 75 to 200 micrometers.

Please replace paragraph [0025] with the following amended paragraph:

[0025] Because making a shadow mask is a mature technology used in CRT manufacturing, this the above-described method employs ~~the~~ mature technology. In addition, a thickness and a material of the ~~shadow mask 21~~ metal plate 25 can be selected according to the particular requirements of

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the flat panel display desired. Furthermore, ~~the~~ a thickness and ~~the~~ a material of the insulative layer 31 can be determined according to the insulative performance required for the flat panel display. Moreover, the barrier array can be produced in a size large enough ~~size that~~ for it ~~can~~ to be subdivided for use in a plurality of flat panel displays. In summary, the present invention provides barrier arrays having a high precision ~~with a~~ flat upper surface and a uniform height, ~~at a low production costs, and the~~ The barrier arrays are suitable for inexpensive mass production in an environmentally friendly manner.